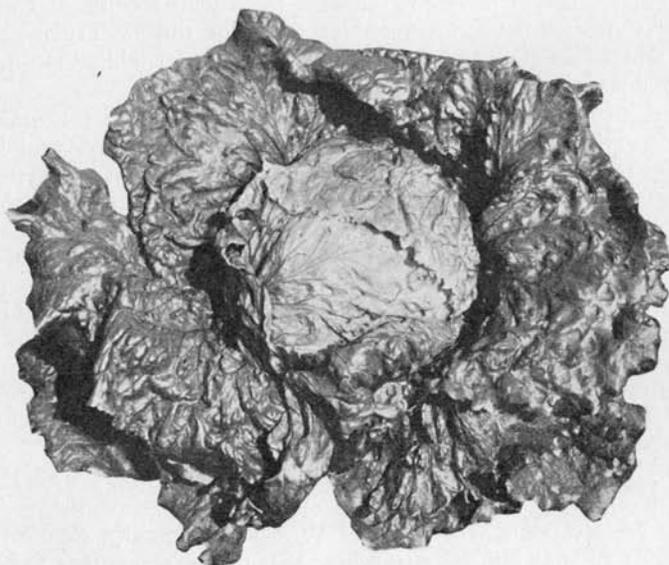


Connecticut Agricultural Experiment Station
New Haven

Testing Vegetables for
Connecticut

Results for 1931

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The selection of vegetable seeds for planting depends upon many factors other than yield. Color in carrots, the size of ear of sweet corn, the shape of squash, or the curliness of leaf in spinach are fully as important as the number of boxes harvested, and sometimes more so.

Vegetable seeds are produced in such widely diversified regions as California, Nebraska and Denmark. Many of these seeds are not well adapted to New England conditions. To grow even a small crop of some vegetables requires skill in soil preparation, wisdom in the selection of the time for planting, knowledge of spraying and many other tedious and expensive details. The interests of the seed dealer, the vegetable grower, and the consumer are one in obtaining seeds that are the best adapted to local conditions—seeds that will produce desirable crops with the least expense.

Variety testing has been done, and always must be done, on the farms where the crops are grown. Such tests as are conducted at the Windsor and Mount Carmel farms of the Connecticut Agricultural Experiment Station serve only to indicate those strains and varieties that are most likely to give the best results on Connecticut farms. When comparing one variety of plants with another allowances must be made for differences in soil, season and manner of caring for the crop. The same lot of seed will give different results in different seasons, in different fields and even in the same field when planted at different times. Trueness to type and time of maturity are usually less variable than productiveness, size, color and shape.

In the preliminary trials reported here every effort has been made to eliminate soil and cultural differences. The several lots of the same variety have all been planted on the same day, fertilized and cultivated alike, and the records taken at the same time. In nearly every case two or more plantings have been made in different parts of the field, and the results from both plots are averaged. Even with these precautions differences in yield of less than 10 per cent are probably not significant. The highest yielding lot one year is not expected to give the very best result the next, but, ordinarily, seed that is outstanding one year may be relied upon to give results better than the average the next year.

SPINACH

Spring Planting

The variety trials of spinach at Windsor included a number of strains of regular and long-standing Savoy together with a few of the smoother leaved types. First planting was made on April 15. The early part of the season was subjected to excessive rainfall, and possibly due to this all varieties made an uneven growth. The same seed was sown in two series in different parts of the same field, and the results, in general, were the same for both. Notes were taken on June 3, at the time the crop was ready to cut.

The following lots of seed were grown.

REGULAR SAVOY	
Variety	Source of seed
Savoy L384.2	Associated Seed Growers ¹
Dark Green Savoy	Comstock, Ferre & Co.
Connecticut Station Savoy	Conn. Agr. Expt. Sta.
Savoy	Frederick W. Eberle
Savoy Special	Frederick W. Eberle
Bloomsdale Reselected Savoy	D. Landreth Seed Co.
Reselected Savoy	F. H. Woodruff & Sons.

All of the above strains of regular Savoy spinach made about the same amount of growth, and in color, curliness of leaf, and



FIGURE 2. Early Savoy spinach in the breeding plots of Mount Carmel farm.

in uniformity they were approximately equal. Reselected Savoy from F. H. Woodruff and Sons was uniformly dark colored, well curled, with a good Savoy type of leaf and showed the least tendency to produce seed stalks. The Dark Green Savoy from Comstock, Ferre and Company was no darker in color than other strains under the conditions that prevailed at Windsor. The Connecticut Station Savoy made the fastest growth, but was the most variable in type and it produced so many seed stalks that it cannot be recommended in its present condition. Selection by the progeny row method is being made at Mount Carmel in an endeavor to correct these faults.

¹Addresses of seed firms may be found in the Appendix, page 24.

LONG STANDING SAVOY

Variety	Source of seed
Long Standing Savoy L384.1	Associated Seed Growers
Long Standing Savoy	Cadwell & Jones
Long Standing Savoy	Comstock, Ferre & Co.
Bloomsdale Long Standing	D. Landreth Seed Co.
Long Standing Savoy 1306-1	F. S. Platt Seed Co.
Long Standing Savoy 1304-2	F. S. Platt Seed Co.
Bloomsdale Long Standing	F. H. Woodruff & Sons

All of these strains made a somewhat slower growth than the regular Savoy. The leaves were more curled and generally darker in color. They were all remarkably uniform in type and were entirely free from seed stalks. Long Standing Savoy from Cadwell and Jones and from Comstock, Ferre and Company were lighter in color, less heavily curled and had some smooth leaves, which were somewhat more productive than the other five strains, which were equally desirable in color, curling of leaf and uniformity of type. Long Standing Savoy (1304-2) from the F. S. Platt Seed Company was not a Savoy type, but a Long Standing Thick Leaf that had been mislabeled. Evergreen Long Standing from Cadwell and Jones was included in this series, but was also not a Savoy type.

Following an early crop of lettuce, beets, and carrots at Windsor, spinach was planted on July 28. This crop was ready to cut September 23. The plants made a fair growth but showed some yellowing on the bottom leaves. The following strains and types were grown.

Variety	Source of seed
Long Standing Savoy	Associated Seed Growers
Savoy Long Standing (92)	Comstock, Ferre & Co.
Long Standing Bloomsdale	Ferry-Morse Seed Co.
Bloomsdale Long Standing (285)	F. H. Woodruff & Sons
Round Thick Leaf (T540.2)	Associated Seed Growers
King of Denmark	Ferry-Morse Seed Co.
King of Denmark (183)	F. H. Woodruff & Sons
King of Denmark (51)	Comstock, Ferre & Co.
King of Denmark (T534.2)	Associated Seed Growers

The four strains of Long Standing Savoy were closely alike in amount of growth and uniformity of type. Bloomsdale Long Standing (285) from F. H. Woodruff and Sons and Long Standing Savoy from the Associated Seed Growers were dark green, well curled and showed the least amount of yellowing. Round Thick Leaf (T540.2) was somewhat more productive and was ready to cut in the shortest time. The smooth leaves with pointed tips and long stems characteristic of this variety are not so desirable as the Savoy types.

The four strains of King of Denmark were slower in growth than the Savoys, quite uniform in type and equally productive.

One lot (T734.2) from the Associated Seed Growers showed numerous seed stalks and was somewhat more variable in type than the others.

Fall Planting

Seed was sown September 5. The crop was ready to cut October 15. Both lots made a good growth and were about equally productive. The Virginia Savoy was darker green, well curled, showed no yellowing and was entirely free from the seed stalks that it sends up so quickly when planted in the spring.

Variety	Source of seed
Round Thick Leaf	Associated Seed Growers
Virginia Savoy	Comstock, Ferre & Co.

LETTUCE

Eighteen strains of New York lettuce were grown at Windsor in two series. One lot received shallow cultivation during the growing period, the other deep cultivation. Preliminary experiments have shown that cultivation, deep enough to prune the roots, has been beneficial in reducing the amount of tip burn. Tip burn is a breaking down of the leaf tissues following periods of rapid

TABLE 1. LETTUCE GROWN AT WINDSOR

Strain	Source of seed	Percentage marketable heads		
		Deep cultivation	Shallow cultivation	Average
New York 12	Associated Seed Growers ¹	46	57	52
New York 6	Associated Seed Growers	0	0	0
Imperial F	Associated Seed Growers	63	40	51
Imperial C	Associated Seed Growers	24	7	15
New York 12	Grand Junction Seed Co.	0	0	0
New York 0447	Ferry-Morse Seed Co.	38	56	47
New York 0452	Ferry-Morse Seed Co.	23	79	51
New York 0470	Ferry-Morse Seed Co.	46	56	51
New York 5077	Ferry-Morse Seed Co.	30	26	28
New York 6137	Ferry-Morse Seed Co.	21	11	16
New York 7307	Ferry-Morse Seed Co.	7	33	20
New York 9004	Ferry-Morse Seed Co.	46	62	54
New York 12	Pieters-Wheeler Seed Co.	30	38	34
New York 12	Pieters-Wheeler Seed Co.	26	60	43
New York Special	Rohnert Seed Co.	0	0	0
New York W. S.	Rohnert Seed Co.	0	0	0
New York 12	F. H. Woodruff & Sons	37	69	53
New York	F. H. Woodruff & Sons	21	5	13

¹Addresses of seed firms may be found in the Appendix, page 24.

growth. Pruning the roots after rainy spells and just before warm weather in the spring when lettuce makes its most rapid growth, tends to retard development and in this way reduces the amount of injury.

There was a noticeable difference in the amount of tip burn in the two plots cultivated in these two ways. The deeply cultivated field showed fewer plants injured, but these were also retarded in maturity. This may be an advantage with the later crops, tending to hold them back until after the period of greatest competition from western shipments. Obviously it would not be desirable for early crops. The root-pruned field produced about 10 per cent fewer marketable heads than the unpruned field. This difference may be due entirely to soil variation although the two fields were otherwise treated exactly alike.

Seed was sown in cold frames February 25, and the plants were set in the field April 16 in rows 18 inches apart and 14 inches in the row. The crop was ready for cutting the latter part of June. Four strains produced no marketable heads. The others varied from 13 to 54 per cent of heads suitable for cutting, equal to 3,000 and 12,000 heads per acre. There were some inconsistencies in the results from the two plots from the same seed, but in general the figures agree reasonably well. At least it is possible to say that certain strains are clearly not adapted to New England conditions.

CARROTS

Carrots made a slow growth during the early part of the season and failed to color properly. Marked differences were shown among the nine strains of Chantenay carrots in shape, outside color and prominence of core. They ranged from 0 to 100 per cent Chantenay type of roots. Gill's Oregon Chantenay was outstanding in having all of the roots true to a fair Chantenay type. Unfortunately this particular strain was variable in color, having many light roots.

Coreless is a term that has been applied to carrots in which the central core has the same shade of color as the outer cortex and for that reason is inconspicuous. In some roots the outer part is dark while the core is light. In others the reverse is true. Where the two parts are colored the same they may be both light or dark. The Oregon Chantenay, Ferry-Morse's 9271, the F. S. Platt and the Associated Seed Growers' strains were the best of the lot when considered for their so-called corelessness.

TABLE 2. CHANTENAY CARROTS GROWN AT WINDSOR

Variety	Source of seed	Shape		Outside color		Core	
		Danvers type	Chantenay type	Light	Dark	Distinct	Not distinct
Chantenay	Associated Seed Growers	%	%	%	%	%	%
Chantenay	Cadwell & Jones	86	14	0	100	30	70
Chantenay 5184	Ferry-Morse Seed Co.	71	29	0	100	67	33
Red Cored							
Chantenay 8320	Ferry-Morse Seed Co.	71	29	0	100	53	47
Red Cored							
Chantenay 9271	Ferry-Morse Seed Co.	86	14	0	100	53	47
Oregon Chantenay	Gill Bros. Seed Co.	51	49	0	100	40	60
Chantenay 1096-1	F. S. Platt Seed Co.	0	100	29	71	20	80
Chantenay	F. H. Woodruff & Sons	54	46	0	100	27	73
Coreless Chantenay	F. H. Woodruff & Sons	57	43	0	100	73	27
		100	0	0	100	53	47

EARLY YELLOW SWEET CORN

Eight varieties of early yellow sweet corn were grown both at Windsor and Mount Carmel. Plantings were made May 1 and 29 at Mount Carmel and May 18 at Windsor. Good stands were obtained from all plantings. Although the early growth was slow the plants developed rapidly later and made a good crop. The corn grown at Windsor was harvested at the marketable stage, but at Mount Carmel the plants were allowed to reach full maturity and comparisons were made with the ripe ears. The time of tasseling and silking gives a reliable indication of the order of ripening.

From the corn planted at Windsor May 18, the first marketable ears were picked from the Spanish Gold plot July 24, just 67 days after planting. The next variety came into production four days later, and all varieties were picked clean on July 31. Spanish Gold was more variable in ripening than the other varieties but all the ears were harvested by July 28, when Extra Early Yellow and Extra Early Golden produced their first ears. On some of the very early plantings, growers report that Spanish Gold is no earlier than some of the other varieties that produce a larger ear. At all plantings, after the first of May, Spanish Gold has been appreciably earlier in producing tassels and silks and in ripening ears.

Planted May 1, Golden Sunshine had 1 per cent of its plants shedding pollen July 1, and none of them in silk. Extra Early Golden had 9 per cent shedding pollen and 2 per cent with silks.

On the same day Spanish Gold had 52 per cent in tassel and 71 per cent in silk. Planted on May 29, Spanish Gold had 64 per cent of its plants in tassel and in silk July 17, whereas the other two varieties had none of their plants showing silks.

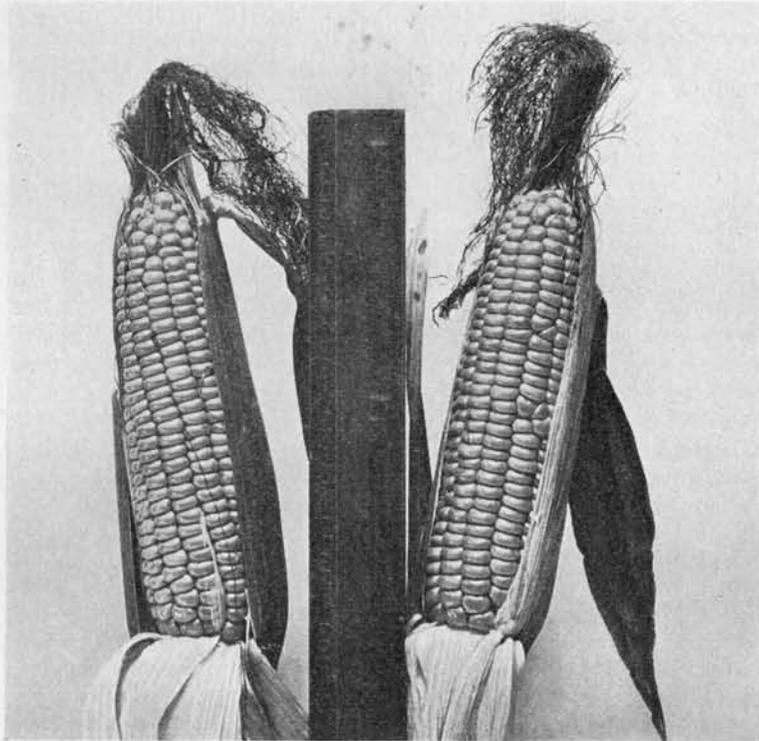


FIGURE 3. Spanish Gold was the first corn to produce marketable ears at Mount Carmel and at Windsor.

Spanish Gold produces many small unmarketable ears, a fault that is being reduced by selection. The cob and shank are small and the husks are so tight that the ears for their size do not appear as large as other varieties that produce no more. Where size of ear is an important factor, Extra Early Golden, Extra Early Yellow, Sunshine and similar varieties are to be preferred. Where earliness and quality are more important, Spanish Gold seems to be the best variety for New England that is available at the present time.

Extra Early Golden of Comstock, Ferre and Company, and Extra Early Yellow of F. H. Woodruff and Sons seem to be practically the same as Golden Early Market from Gill Brothers Seed Company, Portland, Oreg. Extra Early Sensation and Golden Sunshine are also closely alike, if not identical. Growers are confused by so many different names.

Seed of Spanish Gold is available in trial lots from the Connecticut Agricultural Experiment Station, New Haven. Seed in larger quantities may be obtained from dealers, a list of whom will be sent on application.

TABLE 3. EARLY SWEET CORN VARIETY TRIALS, WINDSOR AND MOUNT CARMEL

Variety	Source of seed	Date of first picking—July	Number of marketable ears per acre		Length of mature ears husked at Mount Carmel—Inches	No. of kernel rows at Mount Carmel	Percentage of plants with smut at Windsor
			Windsor	Mount Carmel			
Spanish Gold	Conn. Agr. Expt. Sta.	24	16,335	5,080	5.5	10-12	22
Extra Early Yellow	F. H. Woodruff & Sons	28	14,520	7,112	6.5	12-14	12
Extra Early Golden	Comstock, Ferre & Co.	28	14,165	8,636	6.5	12-16	29
Extra Early Bantam	Joseph Harris Co.	29	14,683	10,160	7.0	8-12	19
Extra Early Sensation	F. H. Woodruff & Sons	30	13,494	8,636	6.5	12-14	20
Golden Sunshine	F. S. Platt Seed Co.	30	12,547	9,652	6.5	8-14	36
Burpee	Burpee Seed Co.	30	12,586	7,620	6.0	8-14	28
Golden Sunshine	Samuel Burnley	31	14,283	6,096	6.5	8-16	17

STRAIGHTNECK SQUASH

Yellow summer squash was planted at Windsor May 18, under Hotkaps. The first pickings were made July 13, and at intervals of two to five days until August 3. The comparative earliness of the different strains is indicated by the yields of the first three pickings. Although the vines continued to bear until frost, yields were recorded only in the period when squash are principally used. The accompanying table gives a comparison of productiveness.

While the total yields were about the same there were marked differences in early production. The Connecticut Station, F. W. Eberle, F. H. Woodruff, Comstock Ferre (Light Strain) and Joseph Harris seed produced the most squashes in the early part

of the picking season when this vegetable is most in demand. Noticeable differences in color were observed. The Joseph Harris, F. W. Eberle, C. C. Hart and Comstock Ferre (Light Strain)



FIGURE 4. Straightneck squash showing good shape and color.

seed had the major portion of the crop in the light color class. Two lots produced a small percentage of green colored squashes that were not marketable.

TABLE 4. STRAIGHTNECK SQUASH, WINDSOR

Source of seed	Yield No. squash per acre		Shape Percent straight	Color			
	First 3 pickings	Total		Percent light	Percent medium	Percent dark	Percent green
Conn. Station 20-5-7							
Conn. Agr. Expt. Sta.	1525	8313	90	76	10	2	12
F. W. Eberle	908	6679	89	88	12	0	0
F. H. Woodruff & Sons	762	6280	93	51	27	17	5
Comstock, Ferre & Co. Light Strain	762	7333	94	84	13	3	0
Comstock, Ferre & Co. Dark Strain	363	6679	98	75	22	3	0
Joseph Harris Seed Co.	617	6788	99	94	6	0	0
F. S. Platt Seed Co.	436	6389	99	22	37	41	0
W. A. Burpee Seed Co.	399	6207	98	23	50	27	0
C. C. Hart Seed Co.	218	6244	66	88	10	2	0

Four varieties were nearly 100 per cent free from crooknecks. All but one lot were reasonably straight. Taking the crook out of crookneck squash has been one of the notable achievements in vegetable breeding within recent years.

PEPPER

The early productive pepper that originated at the Mount Carmel farm from a cross of Sweet Spanish and Harris' Earliest has



FIGURE 5. The first to ripen was this light green pepper of Sweet Spanish type.

continued to be exceptionally productive and early maturing. The peppers are not large and are inclined to be irregular in shape and pointed. They do not make a good stuffing pepper, but are desirable for other purposes. Two strains have been developed, one light yellowish-green in color, the other dark green. Seed of both strains is available for trial in 1932.

EGGPLANT

Two lots of first generation hybrid eggplants from the Saitama Agricultural Experiment Station in Japan were grown at Windsor in comparison with the New York and Black Beauty varieties. Both of the Japanese types proved to be remarkably productive, setting from four to six or more fruits on every plant. When these were ready to pick the native varieties had set only a few. The Japanese eggplants grew from 5 to 8 inches long and were oval in shape rather than round. Although not as large as the native varieties, they were well colored and in quality were fully equal to the larger fruit.

APPENDIX

Seed firm	Address
Associated Seed Growers	New Haven, Conn.
Burnley, Samuel	Seekonk, Mass.
Burpee, W. A., Seed Co.	Philadelphia, Pa.
Cadwell & Jones	Hartford, Conn.
Conn. Agr. Expt. Sta.	New Haven, Conn.
Comstock, Ferre & Co.	Wethersfield, Conn.
Eberle, F. W.	Albany, N. Y.
Ferry-Morse Seed Co.	Detroit, Mich.
Gill Bros. Seed Co.	Portland, Oreg.
Grand Junction Seed Co.	Grand Junction, Colo.
Harris, Joseph, Seed Co.	Coldwater, N. Y.
Hart, C. C., Seed Co.	Wethersfield, Conn.
Landreth, D., Seed Co.	Bristol, Pa.
Pieters-Wheeler Seed Co.	Gilroy, Calif.
Platt, F. S., Seed Co.	New Haven, Conn.
Rohnert Seed Co.	Gilroy, Calif.
Woodruff, F. H., & Sons	Milford, Conn.